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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/541,405

07/01/2005

Michiel Allan Aurelius Schallig

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PHILIPS INTELLECTUAL PROPERTY & STANDARDS

P.O. BOX 3001

BRIARCLIFF MANOR, NY 10510

EXAMINER

ROSENBERGER, RICHARD A

ART UNIT

PAPER NUMBER

2877

MAIL DATE

DELIVERY MODE

06/14/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/541,405

Applicant(s)

SCHALLIG ET AL.

Examiner

Richard A. Rosenberger

Art Unit

2877

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07/01/2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 July 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

1. The specification is objected to and claim 4 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The specification mentions, more or less in passing, that it may be possible to use a scanning beam with "at least one auxiliary maximum different from the main maximum", but does not present such an embodiment in a manner which would teach those in the art how to make and use it, but merely suggests that such a system could perhaps be made. The disclosure for such an embodiment appears to be on page 10, lines 20-30 of the specification as filed, but the specification does not teach how to take that suggestion and convert it into a functioning device without undue experimentation.

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by Inoue et al (US 4,993,835).

As in claim 1, Inoue et al shows a method of determining at least local height of an object (4) surface by scanning an illumination radiation beam (14) and the object (4) surface relative to each other in a scan direction and determining the intensity of radiation reflected by the object surface by means of an image sensor (5) comprising a number of pixels, characterized by the combination of the steps of: scanning the surface by an illumination beam (14) having an intensity distribution showing one main maximum; determining when a sensor pixel receives a maximum radiation intensity (column 9, lines 3-5; column 10, line 19) thereby establishing the position, in the scan directions, of an illuminated surface area associated with said sensor pixel, and measuring the distance, in a direction substantially to the scan direction, between said surface area and the image sensor.

As in claim 2, the illumination beam has a slit-shaped cross section and is scanned in its width direction.

5. Claims 3, 4, 7, and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Inoue et al (US 4,993,835).

As for claim 3 and 4, Inoue does not state what cross-sectional shape the scanning beam 14 can have. The device operates by determining the time that maximum (peak) of the beam passes through a pixel. It would have been obvious to use any convenient shape of beam that allows for such a time determination. As to claim 4, see above. Notice also that the scope of claim 4 is very broad and sets forth only that the beam has some "auxiliary maximum" other than the "main maximum", which could be met accidentally through, for example, diffraction effects at the edges of the beam. Claim 4 is not limited to, for example, a shape such as the $\sin(x)^2/x^2$ profile disclosed in the specification, page 10, lines 26-27.

As to claim 7, the computer of the reference, to determine the height of the surface from the time, must be normalized in some manner based upon the geometry of the arrangement. Adjusting the peak detection circuits to match the actual intensities being encountered, as in claim 8, would have been obvious because this would improve the detection of the beam and result in more reliable measurements.

6. Claims 5, 6, and 9-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Inoue et al (US 4,993,835) in view of Uesugi et al (US 5,102,224).

As in claims 5, 6, and 11, it would have been obvious to use other types of scanning that the angular scan implemented through a scanning mirror as shown by Inoue et al. Uesugi et al shows that it is known in the art to scan by moving a light source in a direction parallel to the surface being measured. It would have been obvious to use such other known scanning means where appropriate, such as with a generally

flat surface as in Uesugi et al, because it is a known scanning system used in a known and similar manner and would, because of the linear motion, simplify the mathematics needed to interpret the results.

As in claims 9 and 13, Inoue appears to detect diffused light. As in claims 10 and 14, the use of specularly reflected light, whet the nature of the object being inspected admits to such use, would have been obvious; the system to operated requires only that a difference in height translated into a difference in the detection time as the beam scans, and does not requires any particular arrangement beyond the production of that time difference.

As in claim 12, in Inoue et al there is an optical system (8) for imaging the surface between the surface and the image sensor. The choice of any type of light source that will produce a light beam that can be detected as it scans the surface, such as the well-known halogen lamp of clams 15 would have been obvious; choosing a dimension for the slit appropriate to the application would have been obvious; a narrow slit would have been obvious to produce higher resolution. Choosing an appropriate angle for scanning, as in clams 16, would have been obvious. Data processor 13 of Inoue et al can be at least obviously implemented as programmable unit, as in claim 17, programmed with software, as in claim 18.


7. Sato et al (US 4,794,262) shows a similar system; note the detetion and storage of time intervals.

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8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard A Rosenberger whose telephone number is (571) 272-2428. The examiner can normally be reached on Monday through Friday during the hours of 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory J. Toatley, Jr. can be reached on (571) 272-2800 ext. 77. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

R. A. Rosenberger
9 June 2007



Richard A. Rosenberger
Primary Examiner